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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,975	07/07/2003	Michael Redecker	61610066US	6522

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VIENNA, VA 22182

EXAMINER

QUARTERMAN, KEVIN J

ART UNIT	PAPER NUMBER
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2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/612,975

Applicant(s)

REDECKER, MICHAEL

Examiner

Kevin Quarterman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1206; 0107</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment and remarks received 29 December 2006 have been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Toyama (JP 2000-321994 A). The Examiner notes that a computer translation of Toyama is used in this claim analysis.
4. Regarding independent claim 1, Figure 2 of Toyama shows a display comprising a substrate (4) with a plurality of sub-pixels arranged on at least a first side of the substrate, wherein a sub-pixel comprises a first electrode (6) having a first polarity; a second electrode (10) having a second polarity; and an emitter layer (8), wherein the emitter layer is interposed between the first electrode and the second electrode; an excitation light source (2) for projecting light to the emitter layer; a photoluminescence light emitted from the emitter layer; and an electrical field (12) formed between the first electrode and the second electrode which controllably quenches the photoluminescence light from the emitter layer.

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5. Regarding claim 2, Figure 2 of Toyama shows the excitation light source arranged to project light on a second side of the substrate, the substrate formed of a transparent material, the first electrode adjacent to the first side of the substrate, the first electrode formed of a transparent material, and the second electrode formed of a light-reflecting material (§ [0014]).
6. Regarding claim 3, Toyama discloses that the excitation light source may be arranged to project light on the first side of the substrate (§ [0033]), the first electrode adjacent to the first side of the substrate, the first electrode formed of a light-reflecting material, and the second electrode formed of a transparent material.
7. Regarding claim 4, Toyama discloses the first electrode and the second electrode formed of a transparent material (§ [0014]).
8. Regarding claim 5, Figure 5 of Toyama shows a dielectric mirror (32) arranged on the sub-pixels and the first electrode and the second electrode formed of a transparent material.
9. Regarding claim 6, Figure 5 of Toyama shows a dielectric mirror (32) arranged on the sub-pixels and the first electrode and the second electrode formed of a transparent material.
10. Regarding claim 7, the Examiner notes that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim (MPEP § 2115). Thus, the properties of the operation of the photoluminescence quenching device have not been given patentable weight.

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11. Regarding claim 10, Toyama discloses the excitation light source as a lamp capable of emitting blue light and ultraviolet rays (§ [0040]).
12. Regarding claim 11, Toyama discloses the excitation light source being a mercury lamp or a xenon lamp (§ [0040]).
13. Regarding claim 12, Figure 3 of Toyama shows the excitation light source located outside of the display.
14. Regarding claim 13, Figure 3 of Toyama shows an optical unit (2c), which can adjust the light emitted from the emitter layer.
15. Regarding claim 14, Figure 5 of Toyama shows a screen on which an image is formed with the light emitted from the emitter layer.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 8-9 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyama (JP 2000-321994) in view of Leising (US 6,117,529).
18. Regarding claim 8, Toyama discloses the limitations of independent claim 1 discussed earlier but fails to exemplify the emitter layer formed of at least one of a low molecular organic material, and a light-emitting polymer, and wherein the light-emitting polymer is one of polyphenylene vinylene and polyfluorene.

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19. Leising teaches that it is known in the art to provide a display with a an emitter layer formed of at least one of a low molecular organic material, and a light-emitting polymer, and wherein the light-emitting polymer is one of polyphenylene vinylene and polyfluorene for providing intense emission in the blue spectral range (col. 8, ln. 64-67 thru col. 9, ln. 1-14).

20. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the display of Toyama with an emitter formed of the material taught by Leising, since it is within the skill of a worker in the art to select a known material based on its suitability for its intended use (MPEP § 2144.07).

21. Regarding claim 9, Figure 4 of Leising shows a hole transport layer (12) interposed between the first electrode and the emitter layer, the hole transport layer formed of at least one of polyethylene dioxy thiophene, polystyrene sulfone acid, and polyaniline (col. 13, ln. 4-20).

22. Regarding claim 15, Leising discloses the dielectric mirror having a bandwidth narrower than a wavelength of the light emitted from the emitter layer (col. 14, ln. 56-62).

23. Regarding claim 16, Leising discloses the dielectric mirror having a bandwidth narrower than a wavelength of the light emitted from the emitter layer (col. 14, ln. 56-62).

24. Regarding claim 17, Leising discloses the dielectric mirror including a plurality of refraction layer having different refractive indices (col. 14, ln. 56-59).

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25. Regarding claim 18, Leising discloses the dielectric mirror including a plurality of refraction layer having different refractive indices (col. 14, ln. 56-59).

26. Regarding claim 19, Leising discloses a low-refractive index refraction layer of the plurality of refraction layer formed of at least one of silicon dioxide, silicon nitride, and magnesium fluoride, and a high-refractive index refraction layer of the plurality of refraction layers formed of at least one of titanium dioxide, tin oxide, zirconium oxide, and tantalic oxide (col. 14, ln. 56-59).

Response to Arguments

27. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

28. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 22 December 2006 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

29. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Quarterman
Examiner
Art Unit 2879

kq 
17 March 2007


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